

AMENDMENTS TO CLAIMS

1. (Currently amended) A position control method for controlling a position of an object lens in a direction perpendicular to a tangential direction of a spiral track or of concentric tracks formed on a recording surface of a recording medium without a guide groove, said position control method comprising:

a first step of trying to read a predetermined data recorded on the recording medium;

a second step of determining whether or not the predetermined data is readable; and

a third step of, according to whether or not the predetermined data is readable, switching a criterion for controlling the position of the object lens based on a tracking error signal,

wherein the first step is performed when determining a type of the recording medium, ~~wherein the third step comprises a step of, if the predetermined data is not readable, switching to a criterion that includes reversing a polarity of the tracking error signal and controlling the position of the object lens based on the reversed polarity tracking error signal,~~

wherein the predetermined data includes an address data, [[and]]

wherein:

a first light source is used when the recording medium is determined to be of a first type, and

a second light source is used when the recording medium is determined to be of a second type,

wherein the third step comprises a step of, if the predetermined data is not readable, switching to a criterion that includes shifting an on-track determination position in the tracking error signal by a predetermined amount and controlling the position of the object lens with the tracking error signal, said on-track determination position of the tracking error signal being a position at which it is determined that on-track occurs, and

wherein the predetermined amount equals half of a wavelength of a waveform of the tracking error signal.

2-5. (Canceled)

6. (Original) The position control method as claimed in claim 1, wherein: the first step is performed during a seek operation of the object lens.

7. (Canceled)

8. (Original) The position control method as claimed in claim 1, wherein: the first step is performed when reproducing a data recorded on the recording medium.

9. (Currently amended) A position control method for controlling a position of an object lens in a direction perpendicular to a tangential direction of a spiral track or of concentric tracks formed on a recording surface of a recording medium having a plurality of guide grooves, said position control method comprising:

a first step of trying to read a predetermined data recorded in the guide grooves or in a region between two of the guide grooves on the recording medium following a criterion for controlling the object lens based on a tracking error signal with respect to the guide grooves or a tracking error signal with respect to the region between two of the guide grooves;

a second step of determining whether or not the predetermined data is readable; and

a third step of, according to whether or not the predetermined data is readable, switching the criterion and trying again to read the predetermined data recorded in the guide grooves or in the region between two of the guide grooves, ~~wherein the third step comprises a step of: if the predetermined data is not readable, switching to a criterion that includes reversing a polarity of the tracking error signal and controlling the position of the object lens based on the reversed polarity tracking error signal;~~

wherein the predetermined data includes an address data,

wherein the first step is performed when determining a type of the recording medium, [[and]]

wherein:

a first light source is used when the recording medium is determined to be of a first type, and

a second light source is used when the recording medium is determined to be of a second type,

wherein the third step comprises a step of, if the predetermined data is not readable, switching to a criterion that includes shifting an on-track determination position in the tracking error signal by a predetermined amount and controlling the position of the object lens with the tracking error signal, said on-track determination position of the tracking error signal being a position at which it is determined that on-track occurs, and

wherein the predetermined amount equals half of a wavelength of a waveform of the tracking error signal.

10-13. (Canceled)

14. (Original) The position control method as claimed in claim 9, wherein: the first step is performed during a seek operation of the object lens.

15. (Canceled)

16. (Original) The position control method as claimed in claim 9, wherein: the first step is performed when reproducing a data recorded on the recording medium.

17-28. (Canceled)

29. (Currently amended) A position control device for controlling a position of an object lens in a direction perpendicular to a tangential direction of a spiral track or of concentric tracks formed on a recording surface of a recording medium without a guide groove, said position control device comprising:

a trial unit configured to try to read a predetermined data recorded on the recording medium, wherein trying to read a predetermined data is performed when determining a type of the recording medium; and

a control unit configured to determine whether or not the predetermined data is readable, and according to whether or not the predetermined data is readable, to switch a criterion for controlling the position of the object lens based on a tracking error signal for control of the position of the object lens,

~~wherein if the predetermined data is not readable, the control unit switches to a criterion that includes reversing a polarity of the tracking error signal and controlling the position of the object lens based on the reversed-polarity tracking error signal,~~

wherein the predetermined data includes an address data, [[and]]

wherein:

a first light source is used when the recording medium is determined to be of a first type, and

a second light source is used when the recording medium is determined to be of a second type,

wherein if the predetermined data is not readable, the control unit switches to a criterion that includes shifting an on-track determination position in the tracking error signal by a predetermined amount and controlling the position of the object lens with the tracking error signal, said on-track determination position of the tracking error signal being a position at which it is determined that on-track occurs, and

wherein the predetermined amount equals half of a wavelength of a waveform of the tracking error signal.

30-33. (Canceled)

34. (Currently amended) A position control device for controlling a position of an object lens in a direction perpendicular to a tangential direction of a spiral track or of concentric tracks formed on a recording surface of a recording medium having a plurality of guide grooves, said position control device comprising:

a trial unit configured to try to read a predetermined data recorded in the guide grooves or in a region between two of the guide grooves on the recording medium following a criterion for

controlling the object lens based on a tracking error signal with respect to the guide grooves or the region between two of the guide grooves, wherein trying to read a predetermined data is performed when determining a type of the recording medium; and

a control unit configured to determine whether or not the predetermined data is readable, and according to whether or not the predetermined data is readable, to change the criterion and to try again to read the predetermined data recorded in the guide grooves or in a region between two of the guide grooves,

~~wherein if the predetermined data is not readable, the control unit switches to a criterion that includes reversing a polarity of the tracking error signal and controlling the position of the object lens based on the reversed polarity tracking error signal,~~

~~wherein the predetermined data includes an address data, [[and]]~~

~~wherein:~~

~~a first light source is used when the recording medium is determined to be of a first type, and~~

~~a second light source is used when the recording medium is determined to be of a second type,~~

wherein if the predetermined data is not readable, the control unit switches to a criterion that includes shifting an on-track determination position in the tracking error signal by a predetermined amount and controlling the position of the object lens with the tracking error signal, said on-track determination position of the tracking error signal being a position at which it is determined that on-track occurs, and

wherein the predetermined amount equals half of a wavelength of a waveform of the tracking error signal.

35-40. (Canceled)

41. (Previously presented) The position control method as claimed in claim 1, wherein, if it is determined that the recording medium is a DVD, the tracking error signal is detected using a differential push-pull method.

42. (Previously presented) The position control method as claimed in claim 1, wherein the tracking error control signal is based on a vertical distance of the object lens from the recording medium.